Article Information

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Blockchain Bites: Tokenization of Carbon Markets – more than just a token movement to net zero; Bhutan goes over the top pioneering Crypto Tourism Payment System; and Line your wallets: US bill targets crypto corruption.

Steven Pettigrove, Luke Higgins and Luke Misthos of the Piper Alderman Blockchain Group bring you the latest legal, regulatory and project updates in Blockchain and Digital Law.

Tokenization of Carbon Markets – more than just a token movement to net zero?

While many legislatures continue to debate the merits of crypto and blockchain, businesses are getting on with the work of building value and results with the technology. The Global Digital Finance (**GDF**) report on voluntary carbon markets (**VCMs**) offers an intriguing window into how blockchain technology and tokenization can address critical challenges in carbon credit trading. The report presents a strategic roadmap for creating more transparent, accessible, and efficient carbon markets to help move the world towards a net zero emissions goal.

Key Findings and Recommendations

The report puts forward four core recommendations to transform VCMs:

- **Unified Market Framework:**Establish an industry-led working group to develop standardized accreditation and reporting protocols for tokenized carbon credits, drawing on international best practices.
- **Enhanced Transparency:**Utilizing distributed ledger technologies (DLT) to provide real-time price transparency, standardized credit quality data, and comprehensive transaction histories.
- **Trust and Verification:**Leverage blockchain technologies to embed independent audit trails, verification mechanisms, and provenance tracking directly into carbon credit transactions.
- **Regulatory Innovation:**Create an industry sandbox to test carbon credit tokenization models, supporting process improvements and risk mitigation.

Critical Context

With only five years remaining for countries to try and meet 2030 greenhouse gas emission reduction commitments, the report emphasizes the urgency of developing robust, technology-enabled carbon trading mechanisms. Armin Peter, Executive-in-Residence at GDF says:

> *The convergence of traditional carbon markets and digital infrastructure offers new opportunities to scale with intent, applying lessons learned from supplementing traditional financial markets.*

Despite tokenization's potential, the report identifies several substantial barriers, including:

1. **Trust and Integrity**: Tokenization alone cannot resolve longstanding issues of credit quality and standards inconsistencies in voluntary carbon markets.
2. **Market Fungibility**: Carbon credits are not perfectly interchangeable, with quality variations significantly impacting valuation. As the document notes, "a carbon credit from a high-quality reforestation project in one

country [may be] valued more highly than a credit from a less verified or lower-quality project."
3. **Verification Complexity**: Robust verification processes must be standardized to ensure market confidence, requiring "enriched data schemas for tokens that can offer diverse verification methods."

> *Tokenization addresses many of the challenges… by giving each carbon credit a unique digital representation that can be traced from issuance to retirement.*

The report notes that successful carbon credit tokenization depends on establishing synchronized, transparent systems that reinforce market trust. Key recommendations include developing interoperable platforms, creating real-time verification mechanisms, and ensuring comprehensive data integrity across traditional and blockchain-based registries.

> *While tokenization presents a path forward for VCM, addressing these ongoing challenges is essential to unlocking its full potential.*

EU Carbon Border Adjustment Mechanism: Countering Carbon Leakage

The European Union has implemented a groundbreaking regulatory mechanism designed to address carbon emissions and prevent economic distortions in international trade. The Carbon Border Adjustment Mechanism (CBAM), which entered into force on May 17, 2023, and will become operational on October 1, 2023, represents a strategic approach to mitigating carbon leakage by imposing carbon charges on imported goods that are equivalent to domestic carbon pricing under the Emissions Trading System (ETS).

The mechanism's core strategy involves establishing a standardized carbon pricing framework that applies uniformly to both domestic and imported goods. By imposing a charge directly proportional to the embedded carbon content of imports, the EU aims to create a level economic playing field that incentivizes global decarbonization efforts. The regulation uniquely accounts for mandatory carbon prices in exporting countries, providing a nuanced approach to international carbon pricing alignment.

Emerging Standards in Carbon Markets

Complementing regulatory efforts are needed to enhance transparency and trust within voluntary carbon markets. The report promotes Legal Entity Identifiers (LEIs) and verifiable LEIs (vLEIs) emerge as pivotal tools for authentication, enabling seamless identification of market participants across traditional and tokenized ecosystems. These standards serve multiple functions: reducing fraud risks, facilitating compliance checks, and creating interoperable frameworks that bridge conventional and blockchain-based carbon trading platforms.

Case Study Insights: Blockchain and Carbon Credit Innovation

Two compelling case studies—Tokenovate's collaboration with LandCarbon and Northern Trust's Carbon Ecosystem—demonstrate how advanced technologies can transform carbon credit markets. These initiatives showcase blockchain's potential to address historical market challenges by providing transparent, traceable, and legally robust mechanisms for carbon credit origination, verification, and trading. By integrating data analytics, smart contracts, and rigorous legal frameworks, these platforms aim to enhance market efficiency, reduce fraudulent activities, and create more sophisticated financial products in the carbon credit landscape.

Future Market Evolution

GDF suggest that the future of carbon markets will be characterized by increased standardization, technological integration, and sophisticated governance mechanisms. As markets evolve, the incorporation of advanced identification standards, blockchain technologies, and comprehensive regulatory frameworks will be crucial in creating trusted, transparent, and scalable carbon trading ecosystems. Blockchain technology offers a number of benefits in seeking to improve standardisation and transparency in these global but fragmented markets, and together with necessary human coordination, help further the drive toward 2030 emission commitments and net zero.

Written by Steven Pettigrove with Michael Bacina

Bhutan goes over the top pioneering Crypto Tourism Payment System

Bhutan is partnering with Binance Pay and DK Bank, Bhutan's first fully digital, state-owned bank, to launch a crypto tourism payment system. This marks the first time a fully integrated, end-to-end crypto payment solution has been implemented at a national level.

The system allows tourists to scan QR codes and use cryptocurrencies such as Bitcoin (BTC), Ethereum (ETH) and selected stablecoins to pay for services including visa fees, flights, accommodation, tour guides and market purchases. All transactions are processed through Binance Pay, a 'contactless, borderless, and secure crypto payment technology' that enables users and merchants to send and receive crypto internationally without gas fees using the Binance App.

The platform intends to reduce both transaction and currency exchange costs and eliminates the need for international credit cards. The system rollout includes over 100 merchants and is designed to simplify travel for crypto users while offering vendors alternative access to global payment networks.

In the official announcement, CEO of Binance, Richard Teng expressed his optimism over the project.

> *We are excited to partner with Bhutan as we are not only advancing the use of cryptocurrencies in travel but also setting a precedent for how technology can bridge cultures and economies. This initiative exemplifies our commitment to innovation and our belief in a future where digital finance empowers global connectivity and enriches travel experiences.*

This sentiment was echoed by Damcho Rinzin, Director of Bhutan's Department of Tourism.

> *This is more than a payment solution – it's a commitment to innovation, inclusion, and convenience.*

The initiative is part of Bhutan's broader strategy to harness blockchain technology in support of financial inclusion and to reduce dependence on traditional banking infrastructure. Bhutan reportedly holds the fifth-largest sovereign bitcoin reserve, surpassing El Salvador.

According to Binance, the system aligns with the country's long-term economic development goals, which prioritise technology, self-reliance and innovation as drivers of sustainable growth. The launch of the crypto tourism system highlights the practical use cases of cryptocurrency as a tool for advancing digital payments and identity solutions.

Written by Steven Pettigrove, Luke Misthos and Emma Assaf

Line your wallets: US bill targets crypto corruption

Democratic Senators Jeff Merkley and Chuck Schumer have introduced the *End Crypto Corruption Act* which aims to ban the President, Vice President, members of Congress, senior executive officials and their immediate families from investing in or promoting cryptocurrencies. The bill targets Donald Trump, whose crypto holdings reportedly make up nearly 40% of his net worth (valued at approximately US$2.9 billion) according to the State Democracy Defenders Action group.

The bill, which is supported by a group of Democratic senators, appears to be a response to the controversial launch of the $TRUMP and $MELANIA meme coins and Trump-backed World Liberty Financial's latest stablecoin venture, which have raised concerns about corruption and profiteering from public office. Launched on 18 January 2025 via Trump's Twitter and Truth platform, the $TRUMP coin enjoyed a dizzying rally before a sharp correction, causing many to speculate on the legality and legitimacy of the venture.

Key Provisions

The bill prohibits any 'covered individual' or their spouse or dependent child from engaging in prohibited financial transactions during their term of service and for one year after leaving office. A 'prohibited financial transaction' includes:

1. Issuing, sponsoring or endorsing a cryptocurrency, meme coin, token, NFT, stablecoin or other digital asset sold for profit.
2. Holding any comparable financial interest acquired through synthetic means such as derivatives, options or warrants.
3. Holding such interests through aggregated products such as a mutual fund, exchange-traded fund or other similar means.

However, 'prohibited financial transaction' does *not* include the mere purchase, sale, holding or other conduct relating to financial instruments or assets routinely accessible to any member of the public. For example, stock trading by public officials based on information obtained through their office has been a long running source of controversy.

A 'covered individual' includes the President, Vice President, members of Congress, Senate-confirmed officials and special government employees in the Executive Office of the President. This would notably include figures like Elon Musk in his role at the Department of Government Efficiency (DOGE). Violations may result in civil fines, disgorgement, imprisonment (up to five years) or disqualification from holding United States public office.

While 20% of $TRUMP coins were made available to the public (200 million tokens), the remaining 80% (800 million tokens), were retained by CIC Digital LLC, a company linked to Trump. If the bill passes and Trump is barred from promoting, holding, or endorsing the $TRUMP coin, he could find himself in a precarious position as the beneficial holder of a large stake in the token. The law could also target other Trump family crypto initiatives like World Liberty Financial's stablecoin project.

Unfortunately for Democrats hoping to restrain the President, the President is highly unlikely to sign any law which would restrain his family's business ventures even if they can win some Republican support. It appears the bill is instead targeted at bringing greater publicity to concerns over the use of cryptocurrency as a vehicle for corruption. The conduct in question is likely to be addressed by laws of general application, and the issues raised are not specific to cryptocurrency related ventures. However, it does highlight concerns in relation to public officials taking financial positions in respect of legislative and administrative matters which they have the ability to shape, with market structure and stablecoin legislation currently before the US Congress. A partial solution may mean ensuring that ethics disclosure do extend not just to securities but also cryptocurrency and related ventures. Of course, any such standards and laws must also be enforced by authorities and ultimately by voters at the ballot box.

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